Fort Totten Coast Guard Station, New York
Building 615 Floor Drain Removal

March 1998

Background:

The portion of Fort Totten that is currently owned by the Coast Guard is being investigated under the Defense Environmental Restoration - Formerly Used Defense Site Program. Preliminary Corps investigations of the site concluded that chemical contamination is present and that additional studies should be performed. In 1996, the State of New York added the site to its registry of inactive disposal sites suspected or known to contain hazardous wastes. The site was placed in the state's Class 2 category, meaning that the hazardous waste presents a significant threat to public health and/ or the environment and action is required. (In this case, the state recommended additional studies.) Mercury in Building 615 on Little Bay Road and in the sediments of Little Bay appears to be the principal contaminant of concern. In addition, some upland areas will be investigated to determine whether any public health or environmental hazards are present

Scope of Work:

A contract was awarded to Environmental Construction & Remediation, Inc., Nazareth, Pennsylvania, to remove the 2 floor drains in Building 615 which contained sediment with mercury in it. The 4-inch concrete slab and soil over the 2 drains were to be removed first. Upon removal of the drains, the contractor would collect 3 soil samples from each pipe trench directly underneath the pipe and 1 from excavated soil. If mercury was found in soil, the contractor could remove up to 27 cubic yards of soil from trench without seeking further instructions. Since the same kind of activities may have been conducted in the adjacent building, the contractor also would sample any drains in Building 614.

Results:

Work started on January 10th and the drains were removed on January 11th. The pipe at the south end of the building appeared to be intact. However, some of the joints had crusted sand around them indicating that they might have leaked, and soil samples were collected below these joints for analysis. The pipe at the north end of the building had a 5-inch break in its top underneath the railroad tracks, and some of these pipe joints also appeared to be crusted with sand. Soil samples were taken at the bottom of the trench under the break and at the pipe joints. Mercury was not detected in 3 of the soil samples from the pipe trench, and its concentration ranged from 1.2 parts per billion (ppb) to 15 ppb which is well below the New York State Department of Environmental Conservation's soil cleanup objective for mercury, 100 ppb. A very low level of mercury, 2.3 ppb was detected in the soil removed from the pipe trench, and this material was placed back in the trenches. The trenches were filled and the concrete floor was restored on January 24th. During construction, the area was monitored for mercury vapor and it was never detected

Discussion:

While our literature search is incomplete, the levels of mercury in the shellfish and water of Little Bay probably are not unusual for the New York Harbor/Long Island Sound area. Similarly, while the risk assessment is not finished, it most likely will show that the mercury levels do not pose a hazard to human health. It also probably will indicate that it is not necessary to restrict the use of Little Bay, because mercury is present in the sediments. Preliminary estimates indicate there is no significant risk of adverse health effects to a person coming in contact with Little Bay sediments. The 2 principal ways that people could be exposed to the sediments are either by skin coming into direct contact with the sediment or by placing dirty hands in the mouth. Based upon mercury's toxicity, its concentrations, and the amounts to which an individual is exposed, preliminary analyses indicate that there is not a significant potential for non-cancer health effects. (Available literature indicates that all of mercury's will not cause cancer.)

Fort Totten Coast Guard Station, New York
Little Bay Sampling
Preliminary Results

March 1998

Background:

The portion of Fort Totten that is currently owned by the Coast Guard is being investigated under the Defense Environmental Restoration - Formerly Used Defense Site Program. Preliminary Corps investigations of the site concluded that chemical contamination is present and that additional studies should be performed. In 1996, the State of New York added the site to its registry of inactive disposal sites suspected or known to contain hazardous wastes. The site was placed in the state's Class 2 category, meaning that the hazardous waste presents a significant threat to public health and/ or the environment and action is required. (In this case, the state recommended additional studies.) Mercury in Building 615 on Little Bay Road and in the sediments of Little Bay appears to be the principal contaminant of concern. The state's Division of Marine Resources considered the sediments of the bay to be impaired for shellfish and fish, because the levels of mercury frequently exceed established guidelines. The state's Department of Health determined that the levels of mercury at the site represent a potential threat to public health and the environment.

Supplemental Sampling Work Plan:

In January 1998, Little Bay sediments, water, and shellfish were sampled and tested for mercury. Sediment samples were collected from Little Bay off-shore of the Coast Guard Station to identify where mercury was present and to estimate its levels. The sampling plan was designed to complement a similar effort that was accomplished in December in adjacent portions of Little Bay off-shore of property currently owned by the Army. A grid which extended 400 feet from the shoreline was placed over the Bay, and sediment samples were collected every 100 feet. In addition, 19 samples were taken in the immediate vicinity of the ends of the 2 floor drains in Building 615 which were believed to be a potential source of the mercury in the sediment. Wherever possible, sediment samples were collected every 6 inches down to a depth of 24 inches. Ten (10) shellfish, 5 oysters and 5 mussels, and 12 water samples also were collected. Five (5) fish were scheduled to be tested for mercury, but none could be found in the Bay. (Another attempt will be made to catch fish in May.)

Results:

Mercury was not detected in a few sediment samples from Little Bay, and highest concentration detected was 5.25 ppm in a near surface sample, 6 – 12-inch interval. Only 12 surface samples, however, contained mercury which exceeded the level that the New York State Department of Environmental Conservation considers that the sediment could be severely impacted, 1.3 ppm. Mercury concentrations in Little Bay sediments general increased with depth. The average concentration for each depth interval is shown below:

0-6 inches	0.43 ppm
6-12 inches	0.69 ppm
12-18 inches	1.41 ppm
18-24 inches	1.92 ppm

Mercury levels in the shellfish ranged from 0.08 to 0.11 parts per million (ppm) with an average concentration of 0.09 ppm. Mercury concentrations in the water ranged from 0.1 to 0.27 ppm with an average level of 0.14.

Discussion:

While our literature search is incomplete, the levels of mercury in the shellfish and water of Little Bay probably are not unusual for the New York Harbor/Long Island Sound area. Similarly, while the risk assessment is not finished, it most likely will show that the mercury levels do not pose a hazard to human health. It also probably will indicate that it is not necessary to restrict the use of Little Bay, because mercury is present in the sediments. Preliminary estimates indicate there is no significant risk of adverse health effects to a person coming in contact with Little Bay sediments. The 2 principal ways that people could be exposed to the sediments are either by skin coming into direct contact with the sediment or by placing dirty hands in the mouth. Based upon mercury's toxicity, its concentrations, and the amounts to which an individual is exposed, preliminary analyses indicate that there is not a significant potential for non-cancer health effects. (Available literature indicates that all of mercury's will not cause cancer.)